

AMENDMENTS TO THE CLAIMS

Claims 1-8 (Canceled)

Claim 9 (New) A feedback controlled tension applying system, comprising:

 a material processing device operable to process a material in a continuous sheet form while tension is applied to the material;

 a tension applying device operable to apply the tension to the material;

 a measuring device operable to measure a moving length amount of the material over time;
and

 a control device operable to feedback-control the tension applying device based on a measurement result of said measuring device so that said tension applying device increases the tension applied to the material when the moving length amount of the material over time exceeds a set value that has been set in advance and said tension applying device decreases the tension applied to the material when the moving length amount of the material over time falls below the set value.

Claim 10 (New) The system of claim 9, wherein said measuring device comprises:

 a measuring roll that rotates in contact with the material; and

 an encoder that is operable to detect an amount regarding a rotation angle of said measuring roll;

 wherein said measuring device is operable to measure the moving length amount of the material over time based on the amount regarding the rotation angle of said measuring roll detected by said encoder.

Claim 11 (New) The system of claim 10, wherein said tension applying system comprises:

 a base;

 an arm having end portions, wherein one of said end portions is fixed to said base so as to be vertically swingable and another of said end portions has a pulley for applying a load to the material;
and

a balance weight movable on said arm in opposite directions along said arm under the control of said control device.

Claim 12 (New) The system of claim 11, wherein said material processing device is operable to process the material in a longitudinal direction of the material.

Claim 13 (New) The system of claim 10, wherein said material processing device is operable to process the material in a longitudinal direction of the material.

Claim 14 (New) The system of claim 9, wherein said tension applying system comprises:
a base;
an arm having end portions, wherein one of said end portions is fixed to said base so as to be vertically swingable and another of said end portions has a pulley for applying a load to the material;
and
a balance weight movable on said arm in opposite directions along said arm under the control of said control device.

Claim 15 (New) The system of claim 14, wherein said material processing device is operable to process the material in a longitudinal direction of the material.

Claim 16 (New) The system of claim 9, wherein said material processing device is operable to process the material in a longitudinal direction of the material.

Claim 17 (New) The system of claim 9, wherein said material processing device is a corrugated fin processing device operable to corrugate the material.

Claim 18 (New) The system of claim 17, wherein said corrugated fin material processing device comprises corrugate cutters.

Claim 19 (New) The system of claim 17, wherein said corrugated fin processing device comprises a pair of cutters operable to separate the material into two rows in the direction of movement of the material.

Claim 20 (New) The system of claim 9, wherein said measuring device is located at a position along a path of movement of the material that is downstream of said tension applying device and upstream of said material processing device.

Claim 21 (New) The system of claim 9, wherein said control device is further operable to receive the measurement result of said measuring device as an input signal and to output a control signal to said tension applying device to feed-back control said tension applying device.

Claim 22 (New) The system of claim 21, wherein said control device comprises a sequencer unit that receives the input signal from said measuring device regarding the moving length amount of the material over time and outputs a digital control signal obtained by comparing the input signal with the set value and a D/A converter that converts the digital control signal into an analog control signal as the control signal output to said tension applying device.

Claim 23 (New) The system of claim 9, wherein said tension applying device is located at a position that is upstream of said material processing device and said measuring device.

Claim 24 (New) The system of claim 9, wherein said material processing device is a corrugated fin processing device operable to corrugate material used for corrugated fins of automotive heat exchangers.

Claim 25 (New) The system of claim 9, wherein said tension applying device comprises a pulley, engaging the material upstream of said measuring device, that is operable to vary an amount of force applied to the material.